

REMARKS

Claim 31 stands rejected under 35 USC 112, second paragraph. Claim 31 has been amended and it is believed that the amendment removes the rejection.

Claim 31 stands rejected under 35 USC 103 over Balzer et al in view of Perloff.

Claim 31 defines a heat sealing apparatus which includes a plurality of pockets and electric heating means comprising an electric heating element of etched foil encased in silicone rubber. The combination of these features provides for a number of advantages, as outlined in arguments submitted previously.

The provision of a plurality of pockets in a heat sealing apparatus creates a number of problems. Where a plurality of pockets is used, it becomes necessary to provide a highly controlled specific heating path which can surround each pocket, as the area surrounding the individual pockets on a heat sealing apparatus with a plurality of pockets can be relatively small.

The subject matter disclosed and claimed in this application solves these problems by using a heating element comprising etched foil encased in silicon rubber. This provides a heating element that can be produced in volume manufacture at relatively low cost, while providing the requirements outlined above.

Etched foil can provide a very narrow heating element, in contrast to conventional solid heating elements. By providing a narrow heating element, the area that is heated is kept to a minimum. Also with relatively narrow elements there is a lower power requirement, thus reducing heat transfer to adjacent pockets. This ensures that the material contained in the pockets is not heated, thereby causing damage.

In addition, the use of etched foil allows the heating means to be repeatedly switched on and off, thus preventing excessive heat being applied to the pack and its contents. In contrast, prior arrangements using solid heating elements cannot cope with

repeated on and off modes, thereby potentially being much more likely to cause damage to the contents of the individual pockets.

Balzer et al discloses only one single, large pocket in which medicament may be placed. This device will not suffer from the same problems encountered in devices with smaller pockets, and so the provision of etched foil heating elements is not necessary, and is neither disclosed nor suggested in any way by Balzer et al.

Perloff discloses a sealing device which employs pressure to seal the pack members to one another. This will provide an inferior seal to a heat sealing apparatus, and also does not disclose the proposed solution, either alone or in combination with any other cited document.

The examiner suggests on page 5 of the Office Action that the feature of providing heating elements formed from etched foil is merely one of a number of different types of heating elements, any one of which would yield the same result. Applicant submits that the examiner is incorrect in suggesting that a number of different heating elements would yield the same result as etched foil. A heating element of etched foil, used in the structure defined in claim 31, overcomes a number of problems. Firstly such a heating element enables heating to be confined to a highly controlled specific heating path, in contrast to more conventional heating elements which would likely end up heating the individual pockets and therefore damaging the contents thereof, especially in the case of pockets that are relatively small (as would be the case if the large pocket of Balzer et al were subdivided into multiple pockets as shown by Perloff).

An etched foil heating element is also advantageous in enabling the element to be repeatedly switched on and off, again preventing excessive heat building up and potentially damaging the contents of the individual pockets. Furthermore such heating elements enable a smaller power input, thereby reducing heat transfer to adjacent individual pockets.

Applicant therefore submits that the claimed subject matter, including the combination of the electric heating means, as defined, and the plurality of pockets, provides a greatly improved heat sealing device, alleviating a number of potential problems, and providing the advantages described above.

In view of the foregoing, applicant submits that the subject matter of claim 31 is not disclosed or suggested by Balzer et al and Perloff, whether taken singly or in combination. Therefore, claim 31 is patentable and it follows that the dependent claims also are patentable.

Respectfully submitted,



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